

# Renewable energy communities as ‘socio-legal institutions’: A normative frame for energy decentralization?

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## ABSTRACT

Although the need for energy decentralization and energy democratization has been discussed in the realms of academe for some time, the impact at policy level is yet to be seen. This is however with the notable exception, at the European level, of the Recast Renewable Energy Directive (RED-II) which aims in part to stimulate the formation of ‘renewable energy communities’ in all the Member States. The implementation at policy level remains with Member States where national policies are still overwhelmingly centralised. This creates barriers to the decentralization and democratization of energy and, ultimately, to achieving a ‘just transition’. This article therefore proposes as a way forward to recognise such renewable energy communities as legal entities to be embedded within a separate socio-legal institution (of civil energy networks), to shape (a transition towards) a just new energy system. After explaining what form this new institutional environment and the communities within would take, this article analyses this proposition in the light of the twin aims of energy decentralization and democratization to see how such forms can help achieve energy justice. It is also explained why this can only work upon an institutionally normative alignment. Following an appreciation in the light of growing research of such forms in the Netherlands, the UK and further afield, there seems to be a strong case for the proposed model. Still, realization requires clear purposive legislative steps. Such steps can only lead to ‘on the ground’ success with a coherent and multi-disciplinary institutional perspective. We aim for our research to provide a platform for such efforts.

## 1. Introduction

Energy is not only central to a modern economy but it is also part of the ‘*basic structure of society*’ [1]. Although the social value of energy is accepted and legally recognised,<sup>1</sup> tensions nevertheless persist and the quest for balance in the governance of energy systems inevitably remains an on-going battle. Indeed, with the opening up of the former

state monopolies and the dismantling of the welfare state (the first transition), there were tensions between ‘*market, rights and social solidarity*’ [2]. With the current transition towards a low carbon economy (the second transition), those tensions have intensified highlighting a worldwide inequality not only in terms of ‘*income, wealth and resource ownership*’ [3] but also in terms of ‘*access to safe and affordable energy*’ [4] and distribution [5]. Viewed under the wider lens of climate change,

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<sup>1</sup> At the European level, the Treaty of Amsterdam formally recognises energy as a ‘service of economic general interest’ which access is protected by the Charter of Fundamental Rights (article 36). For a critical appraisal, see Saintier, S. Community Energy Companies in the UK: A Potential Model for Sustainable Development in “Local” Energy? Sustainability 2017; 9(8): 1325; <https://doi.org/10.3390/su9081325>. At the global level, see the 7th UN Sustainable Development Goal to ‘ensure access to affordable, reliable, sustainable and modern energy for all’. For details, see Transforming Our World: the 2030 Agenda for Sustainable Development. UN A/RES/70/1, available online at: [sustainabledevelopment.un.org/sdg7](http://sustainabledevelopment.un.org/sdg7) [accessed April 2019].

accepted as a 'common concern for humanity' [6], the need for urgent global action to reassert energy as a '*primary subject of justice*' [7] is now clear. Although policy and law obviously have an important role to play [8,9] in this quest for 'energy justice',<sup>2</sup> the current legal and governance tools, which still serve a predominantly centralised (hierarchical and exclusive) view of energy systems, do not however support energy justice from a decentralized view [10].

To counter this, a more radical solution, a 'bottom-up' approach<sup>3</sup> involving local actors is increasingly regarded as a strong potential for delivering a more democratic and inclusive just energy transition. This energy decentralization (ED) approach, which strongly espouses Hirst's Associative Democracy principles [11], is supported at the European level by the recast Renewable Energy Directive (RED-II), which aims in part, to stimulate the formation of 'renewable energy communities' in all EU Member States [12], in which '*citizens take ownership of the energy transition*'.<sup>4</sup> Although important as a potential means to achieve energy justice, this step is yet to have an impact. Indeed, as the governance and regulatory task of embedding such entities into the national energy systems is left to Member States, the quest for new legal and regulatory tools to embed them in the energy system continues. This is no small feat since community energy initiatives come in different shapes and sizes<sup>5</sup> and their role/motivation for existence<sup>6</sup> is also highly (institutionally and policy) context-dependent [13–15].

This is where this article aims to help - in part at least. Its leading research question reads: How can a new socio-legal governance framework for civil energy networks of renewable energy communities, enhance decentralization and democratization of the energy system as a means to achieve a just energy transition? This question will be addressed in four steps presented in four sections. Section 2 links our normative energy justice driven approach to the current narrative around ED and energy democracy. Using Hirst's associative democracy concept, we link the narrative with law (and RED II) in order to present a

perspective on how the ED movement may lead to just political and social change in the energy provision. To underpin this socio-legal perspective, in section 3 we argue that this new shift in the energy sector calls for a formal recognition of a new category, that of civil energy networks, with distinct institutional format and normative rules, so as to recast the relationship between state, market and society along associative governance principles. This category is next evaluated, in section 4, with specific references to Dutch and UK experiments of community energy initiatives, and where relevant, to experiences further afield. Against that backdrop we believe that, by successfully navigating the opportunities and challenges that the sector brings in terms of governance, our proposal is sufficiently flexible to support achieving a just energy transition everywhere, for all. We conclude our normative analysis by emphasizing, in section 5, the importance of properly securing normative alignment between the socio-legal institutional environments, particularly of civil networks, and form and function of governance structures, such as energy communities – so that a just energy transition may indeed be established and maintained on the basis of a resilient energy citizenship. Conclusions and recommendations will end the article (section 6).

The key methods applied in the above described analysis are those of 'descriptive legal studies' (What does the existing law say about the role of energy communities?), of 'prescriptive legal studies' (What should the law say about the role of energy communities in respect of a just energy transition?) and of meta-juridical studies (What socio-legal normative system applies to the just energy transition challenge?). References made to Dutch and UK examples could be seen as 'empirical legal studies' but, in terms of methodology, these examples are taken from already available publications and hence merely descriptive [16].

## 2. Energy decentralization: from concept to a tool and the role of law to support a just energy transition

We consume energy in everything we do, the centrality of energy in our daily lives is consequently inescapable. And yet, following the centralised nature of energy systems, we are nevertheless completely detached from energy in terms of both 'technologies and frameworks of governance', making us 'disengaged energy consumers' [17]. Climate change, the '*threat to life on Earth as we know it*' [18], reminds us that aside being 'energy consumers' we are also 'energy citizens' [19], which requires of us a deeper societal engagement with energy in each of those capacities [20–22]. The energy transition to a low carbon society has therefore created the context for the reengagement of the public with energy systems [23].<sup>7</sup>

This reengagement, or 'energy citizenship',<sup>8</sup> although important, is however not sufficient, on its own, to achieve a '*just transition*'. One must also ensure a decentralization and democratization of energy to cater both for economic needs and participation [24]. Indeed, a '*transformation of the socio-energy system is also a decision to live in a different type of society, not simply a low carbon version of the current one*' [25]. At the heart of this movement is therefore the '*recognition of the need to change the socio-economic relations embedded in the energy system by encouraging greater public involvement and control*' [26]. This echoes Hirst's associative democracy principles which proposed to recast the relation between the state, the market and civil society to enable '*market economies to work better*' [27], by which Hirst presumably meant 'work for everyone in society'. In their quest for a better future through a

<sup>2</sup> The debate on energy justice is not new. For a non-exhaustive list of publication: Bickerstaff, K, Walker, G, Bulkeley H. (eds) Energy Justice in a changing climate: Social equity and low carbon energy, Zed Books, 2014. Finlay-Brook, M. Holloman E. Empowering energy justice, International Journal of Environmental Research and Public Health 2016; 13(9), DOI <https://doi.org/10.3390/ijerph13090926>. Forman, A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. Energy policy 2017; 107: 649–57. Healy, N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition' Energy policy 2017, 108: 451–459, 451. Heldeweg, M.A. Normative Alignment, Institutional Resilience and Shifts in Legal Governance of the Energy Transition. Sustainability 2017; 9(7), 1273 <https://doi.org/10.3390/su9071273>.

<sup>3</sup> Term borrowed from Peeters M. and Schomerus, Th. Renewable energy law and the EU: legal perspectives on Bottom-up approaches Edward Elgar, 2014.

<sup>4</sup> See RED-II recital 76, and its genesis in the European Commission's 'Energy Union Framework Strategy, COM (2015) 80 (final), and its subsequent 'Clean Energy for All Europeans', proposals of 30 November 2016. See: <http://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centre-d-clean-energy-transition> [accessed 22 May 2019].

<sup>5</sup> Van Veelen argued that this meant that the concept 'community energy' was therefore used ambiguously. Van Veelen, B. Making sense of the Scottish Community Energy Sector – An organising typology. Scottish Geographical Journal, 2017; 133: 1–20. See too Van Veelen, B. Negotiating energy democracy in practice: governance processes in community energy projects, Environmental Politics, 2018, 27(4): 644–665.

<sup>6</sup> It is accepted that such entities' motivations are social, economic or environmental: Hicks J, Ison, N. An exploration of the boundaries of 'community' in community renewable energy projects: Navigating between motivation and context. Energy Policy 2018; 115: 423–34. Walker, G; Hunter, S, Devine-Wright P, Evans, B and Fay H. Harnessing communities energies: Explaining and evaluating community-based localism in renewable energy policy in the UK Global Environmental Politics 2007, 7:64. Berka, A, Creamer E. Taking stock of the local impact of community owned renewable energy: A review and research agenda. Renewable and Sustainable Energy reviews, 2018, 82: 3400–3419.

<sup>7</sup> Soutar and Michell [see endnote 22] refer to and quote (on p. 135) Devine-Wright, P. Energy citizenship: psychological aspects of evolution in sustainable energy technologies, in J Murphy (Ed), Governing technology for sustainability, Earthscan, London, 2007.

<sup>8</sup> Expression borrowed from Soutar, I, Mitchell C Towards pragmatic narratives of societal engagement in the UK energy system. Energy and Social Sciences 2018; 35: 132–139 at 136.

greater role for local actors, energy decentralization and energy democratization as distinct, yet connected [28] concepts, are therefore two intertwined means to an end, i.e. a just energy transition. Indeed, they therefore appear to articulate and expand on the 'triumvirate of tenets' [29] of 'energy justice', namely distributive/substantive; procedural and recognition justice.<sup>9</sup> These tenets therefore appear important to reassert a moral dimension to the narrative of transformation to provide a socio-legal underpinning to local actors' (social) role in this transformation [30].

However, like energy justice, energy decentralization and energy democratization are yet to have a real impact at policy level, primarily because of the considerable ambiguity over what reengagement, citizenship and democratization really mean [31–33] and, perhaps more importantly for the purpose of this article, considerable difficulty in defining who decentralized actors such as renewable energy communities really are [34]. Caused by the heterogeneity of the sector [35], this lacunae creates a conundrum; decentralized actors are difficult to categorise [36,37], which undermines their analysis [38,39]. In terms of governance, it is more difficult to define their legal identity, which diminishes the understanding of their role and importance, which, in turn allows them to be more easily ignored [40]. Yet, as it is precisely the variety in motivation/role that makes these actors thrive [41], this heterogeneity, which is necessary to their success [42] measured in terms of impact on the communities they are situated in, must consequently be embedded within a proper institutional setting, with fitting governance structures. Indeed, understanding the institutional context of impact is crucial to knowing how justice, in its many forms, may be articulated in practice [43]. In turn, institutionalizing justice enhances the decentralized, democratic legitimacy of those actors [44]. Embedding communities within the mode of 'associative economic governance' [45] brings them formal recognition as legal institutions which allows them, as 'associative forms of governance' to be protected by public power [46]. Thus the socio-legal institutional setting can strengthen the desired institutional change to deliver the social change, namely, a resilient and just energy transition.

The importance of a proper yet flexible (i.e. resilient) institutional and governance context appears to be recognised by the RED-II, which defines renewable energy communities very loosely,<sup>10</sup> hereby allowing for greater flexibility and therefore greater adaptability for the concept to be embedded, as will be explored in section 3. The Directive is therefore an important step in the right direction, at least at the European level. Yet, it is nevertheless far from perfect [47] especially given that its implementation at policy level remains with Member States where national policy is overwhelmingly centralised, which creates barriers to the decentralization of energy [48], to say nothing of energy democratization and energy justice. And so the vicious circle goes.

To break the vicious circle is what we aim to do in this article. For ED and energy democratization, as concepts, to have a proper impact on a just energy transition policy, they must first be articulated as a normative/institutional tool. From the aforementioned view that positions ED and energy democracy as means to the end of energy justice it follows

that only by considering first 'how energy justice is constructed' [49] can we then 'better address injustice', and consider how ED and energy democratization should be tailored to overcome barriers to a just transition [50]. This requires issues to be considered across the whole energy system [51], create new structures and new governance frameworks for the entire energy sector.

This is where law, too often overlooked [52], can help. Heldeweg has argued elsewhere that to give normative integrity to energy justice, one could consider it in terms of social Right of Access to affordable, secure and sustainable energy, which, in order to prosper must be attached to a 'resilient institutional setting' [53]. Building upon this and in line with the above-mentioned need to create new governance frameworks, we argue that as renewable energy communities, local actors, such as transition movements, carbon-neutral initiatives can put justice at the core of what they do, they therefore appear to be a strong candidate to support this social right to a healthy, sustainable or ecologically sound environment.<sup>11</sup>

The fact that the RED-II recognises the potential of such entities is the first step towards linking the academic discourse on what is happening on the ground. This is in line with our argument of the need to consider issues across the whole energy system, create new structures and new governance frameworks for the entire energy sector. To do so, we propose to formally recognise renewable energy communities as a distinct category within the socio-legal sphere of civil energy networks. For our proposal to work, we must first establish its place as institutional environment and its distinct justice-driven role (section 3), with a view of ensuring that this new category does indeed serve the decentralized and democratized aims of a just transition (section 4) and can underpin a strong and secured normative alignment with governance structures within (section 5).

### 3. Exploring community energy governance as a separate socio-legal institution of civil energy networks

Building upon Hirst's associative democracy principles recasting the relationship between state, market and society, we argue that for the new legal category of energy communities to meet its primary aim of delivering a just transition, these new governance structures must first be normatively embedded within a proper civil energy network environment so as to clarify and support their position, role and interactions with other actors in the public governance of the energy sector. To that end, we propose that civil energy network environment be shaped as socio-legal 'institutional environment'. After explaining what we, following Williamson, mean by institutional environments (3.1), we propose how such types present themselves as distinct modes of governance (3.2) with clear regimes as patterns of legal rules (3.3). The latter are essential as they ensure the institutional basis of a mode of governance that delivers on the three tenets of (energy) justice (section 4).

#### 3.1. A context of institutional environments

We borrow this concept from Oliver Williamson: environments, which set basic 'rules of the game' that structure human interaction [54].

<sup>9</sup> Professor Sovacool added a fourth one, that of cosmopolitan justice. Sovacool, B. The political ecology and justice of energy. In: Van de Graaf T, Sovacool BK, Ghosh A, Kern F, Klare MJ (eds) The Palgrave Handbook of the international political economy of energy 2018, Macmillan Palgrave.

<sup>10</sup> Article 2.16 defines renewable energy community as 'a legal entity: (a) which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity; (b) the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities; (c) the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits.'

<sup>11</sup> The choice of a social right is deliberate given the nature of the right advocated, even though social rights do not have the same characteristics as civil and political rights. Bossuyt, M Categorical and vulnerable groups: moving away from the universal human being. George Washington International Law Review, 2018; 717–742, 718.

These environments may be both about informal and formal patterns of social control.<sup>12</sup> Formal patterns with legal significance project distinctive ‘rules of the game’ as playing fields of a legal space of constraints and opportunities to interactions of participants within, about the allocation of goods, services, including information, and rights & obligations. Basic rules of property, contract and legal personality, for example, in part, shape the institutional environment of a competitive market, determining *inter alia* how legal ‘governance structures’, such as firms and the contracts agreed between them, are established and maintained. Thus institutional environments shape the available space for (such legal) relations with the purpose of accommodating transactions that enhance the involved public and private interests in a way that is generally accepted as just.<sup>13</sup>

By contextualising renewable energy communities as governance structures within institutional environments, we aim to show (in the below) how they can be placed in a particular justice perspective and so how their legal position and interests, as well as the values they represent are safeguarded. Thus basic legal certainty and lawfulness of purpose is institutionally fostered, while retaining a scope for heterogeneity, also present in the RED-II, that allows operational flexibility for renewable energy communities to flourish within their given energy sector setting, upon a basic modelling that allows for replication.<sup>14</sup> In our understanding, the transition to a just energy system is about a shift in governance between institutional environments as distinct conceptualisations of justice, leading to an improved legal positioning of renewable energy communities within such environments.

To explain their role as socio-legal spheres, we must first elaborate on the types of institutional environments that we focus upon.

### 3.2. Profiling 3 key types of institutional environments

Separating citizens from consumers fits the traditional governance dichotomy of state versus market. Some have already suggested that the energy transition calls for simultaneously taking on board the different perceptions and concerns of consumers and citizens [55]. Far from dismissing this, we want to move one step further and propose that the possible role of communities and their members opens the perspective of a governance trichotomy, including a third institutional environment of civil society networks, with its own key values, and actor and relationship types.

Recognising formally this third institutional environment, next to that of the state and the market allows, in line with Hirst’s associative

democracy principles, to formally embed communities, as particular types of governance structures, within an accommodating institutional environment. This environment channels and facilitates the delivery of a democratized and decentralized just energy transition. Recognised especially in liberal democracy public governance practice,<sup>15</sup> analytically, the state, market and civil society are the three key institutional environments, each with a distinct nexus that combines two basic socio-legal elements that structure human interactions as institutional environments: a dominant relation-type (i.e. hierarchy, exchange and collaboration) and a dominant interest-type (i.e. public, private, social/community).<sup>16</sup> They are empirically observable institutionalised social patterns of behaviour in practice, with characteristic structures, mechanisms and procedures, fitting to their basic nexus:

- *Constitutional orders* that combine hierarchical relationships with the pursuit of the public interest. They are environments in which government, upon some constitutional setting, holds the power to not only determine the public interest but also pursue this interest unilaterally, by command vis-à-vis citizens, i.e. hierarchically, but only upon safeguards such as the separation of powers. Examples are municipalities, states and the EU.
- *Competitive markets* which combine exchange relationships with the pursuit of private interests. They are environments featuring the market mechanism of consensual exchange in a competitive context, within safeguards for consumer protection and fair competition. Examples are markets for CO<sub>2</sub> emissions, for local commodities and for energy provision.
- *Civil networks* that combine collaborative and sharing relationships with the pursuit of social or community interests. They are present themselves through voluntary civil society, not-for-profit collaboration in co-productive or sharing networks, with safeguards for social inclusion and non-discrimination of not-for-profit services. Examples are the networks of NGOs in religious, cultural, and professional life, in welfare, care, political and social awareness and mobilisation, and for our purpose, for renewable energy community initiatives. Together the latter initiatives display as a polycentric mode of bottom-up collective action that, by ‘blending’ with top-down approaches, can successfully contribute to coping with the global challenge of climate change through a just energy transition [56,57].

Table 1 presents key characteristics of these three institutional environments, while the interest-relation nexus is elaborated with fitting dominant actor relation-types, legitimacy/social acceptance frames and rules and principles.

In the perspective of this article’s leading research question, the recognition of three types of institutional environments begs the subsequent question whether after the ‘affordability-geared’ first energy transition and accompanying governance shift from the welfare state constitutional order to regulated competitive markets, the ‘climate change-driven’ second energy transition will, and in the vein of a just energy transition should, bring a shift from the competitive energy

<sup>12</sup> We decided not to use Elinor Ostrom’s model of institutional levels of analysis, which has similarities with the Williamson model – as Ostrom has acknowledged. Ostrom, E. Understanding Institutional Diversity. Princeton University press, Princeton/Oxford 2005 (Especially page 58–62; endnote 7). The legal nuances in applying Ostrom’s model are not needed in this article.

<sup>13</sup> For a further elaboration of how Williamsons levels of social analysis relate to each other and to energy governance see: Heldeweg M.A. [2017a], Normative Alignment, Institutional Resilience and Shifts in Legal Governance of the Energy Transition. Sustainability 2017, 9(7), 1273 <https://doi.org/10.3390/su9071273>.

<sup>14</sup> The flexibility is recognised as positive as it allows experimentation with different models: Walker, G. Devine-Wright, P. Community renewable energy: what should it mean? Energy Policy 2008; 36(2): 497–500.

<sup>15</sup> Recognised and studied by renowned scholars, see *inter alia*: Ostrom, E. Understanding Institutional Diversity; 2005, Princeton University Press: Princeton, NJ, USA; Oxford, UK; Powell, W.W. (2005). Neither Market nor Hierarchy: Network Forms of Organisation. Res. Organ. Behav. 1990, 12, 295–336; Thompson, G.; Francis, J.; Levčić, R.; Mitchell, J. (Eds.) Markets, Hierarchies and Networks. The Coordination of Social Life; Sage: London, UK, 1991; Rhodes, R.A.W. Understanding Governance; Open University Press: Buckingham, Buckinghamshire, UK, 1997. Rhodes, R.A.W. Understanding Governance: Ten Years on. Organ. Stud. 2007; 28: 1243–1264.

<sup>16</sup> For a discussion in full, with a theoretical group of nine institutional environments (each with their characteristic nexus), see Heldeweg M.A. [2017a], Normative Alignment, Institutional Resilience and Shifts in Legal Governance of the Energy Transition. Sustainability 2017, 9(7), 1273 <https://doi.org/10.3390/su9071273>.



**Table 1**

Three types of institutional environments.

Environment → Characteristics ↓	Constitutional orders (Co)	Competitive markets (Cm)	Civil networks (Cn)
Dominant interest-type <sup>a</sup>	Public	Private- individual	Social/ community
Dominant relation-type <sup>a</sup>	Command & control	Competitive contracting	Collaboration & sharing
Dominant actor- types	Government v. citizens (G2C)	Buyers and sellers (B2B/ B2C)	NGOs & members (N2M)
Dominant legitimacy	Voice	Exit	Loyalty
Dominant basic principles & rules	Servient government, rule of law, democracy, human rights	Autonomy, fair competition & consumer protection	Autonomy, free association/ assembly; voluntarism

<sup>a</sup> Together these essential characteristics make for the 'Institutional nexus'. Other dominant characteristics are consistent but contingent elaborations on this nexus as evolved in practice & theory.

market to coordination by civil energy networks, featuring renewable energy communities.

While broadly defined energy decentralization and energy democratization may support such a shift, they may not, however, suffice to achieve the necessary expansion of renewable energy provision when they are not geared to facilitate the social embedding of the actors and the values they pursue [58]. The pragmatic result may be the co-existence of institutional settings, perhaps one as the exception of the other. For example, civil energy networks as exceptional practices parallel to default coordination by a competitive energy market. That is however not enough, alone, to deliver a just energy transition. Indeed, as the UK Competition and Market Authority showed in its 2016 report, the market alone is not sufficient to ensure affordability [59]; regulation is required to protect the vulnerable. To that end, the left frame of the below Fig. 1 pictures our three ideal types of institutional environments (represented as Co, Cm and Cs – as in Table 1), positioned as inside corners to the angular points of the so-called governance triangle [60]. However, as shifts in governance modes may happen in between angular points, but also to somewhere in-between, Fig. 1 also shows that there are four hybrid areas [1–4]; of dual [1–3] and of trial [4] hybrids.<sup>17</sup> The right frame presents the same governance triangle with arrows representing possible shifts, applied to energy: energy liberalisation (the longest left arrow from Co to Cm); hybrid energy liberalisation (the shorter left arrow that ends in a regulated market); and energy democratization (the third arrow, suggesting a shift from the regulated energy market (Rm) to civil energy networks (Cn)).

This analytical understanding of institutional environments can contribute to realising a just energy transition when one recognises the normative dimension of the three modes of governance. This prescriptive side brings to light the different conceptualisations and operationalisations of energy justice, which ultimately determine the scope of action available to interested actors such as renewable energy communities.

The aforementioned prescriptive rule examples – the rule of law, democracy, human rights, autonomy, fair competition, consumer protection, and free association – structuring and supporting the functioning of institutional environments, exemplify Scott's statement that institutional environments are 'characterized by the elaboration of rules and requirements to which individual organisations must conform if they are

to receive legitimacy and support' [61]. Defining what those rules and requirements are is therefore the third necessary step by defining the clear role and remit of the civil networks for a just transition.

### 3.3. Institutional normativity

Indeed, rules and requirements shape a distinct legal space which, through its prescriptive functionality – e.g. enabling, permitting, commanding, prohibiting – guides actors to interact in alignment with the desired characteristic pattern of relations and interest pursuits. Institutional environments either prescribe liberties of (legal) persons to act lawfully, as determined by rules of conduct (e.g. permission to produce and supply energy), and/or they underpin legal abilities available to validly change legal liberties, on the basis of rules of power (e.g. to prohibit prosumerism).<sup>18</sup> The nature of this normative dimension as legal space may differ and to our objective it is important to recognise the prescriptive format of a legal institution applied to civil networks. Such an institutional legal format may provide the socio-legal context necessary to embed and regulate governance structures, such as energy communities, to ensure that they can validly and lawfully meet their aims, such as by contributing to achieving a just transition.

#### Legal institutions

Legal institutions<sup>19</sup> are normative patterns of behaviour guided by a legal regime that clusters legal rules of four types which together constitute that pattern (by *constitutive* rules), enable its repeated instantiation (by *institutive* rules), regulate such instantiation(s) (by *consequential* rules), and enable termination of such instances (by *terminative* rules) [62,63].<sup>20</sup> Examples range from ownership, contracts and permits to firms, each describing functional patterns of social behaviour and prescribing how to instantiate, use and perhaps terminate these; as if they are 'real'. For example, when we speak of a university type of legal person as something that we can 'go to' or that can 'take a decision', or that 'consumes electricity', we speak of functional activities that relate to the legal rule-guided design of universities. The basic design of a legal institution can be a novel creation, such as a market for green certificates, with contracting upon actual supply and demand. The design can also follow an already existing social practice, such as coming to an agreement, which under certain conditions is recognised as a legal contract.<sup>21</sup>

Lammers & Heldeweg [64,65] propose that not only organisations, such as energy communities, but also institutional environments, such as the EU regulated energy markets, may qualify as legal institutions. The

<sup>18</sup> In this, we follow the works of Hart and Lindal. Hart H.L.A. The Concept of Law, 3rd ed.; Oxford University Press: Oxford, UK, 2012. Lindahl, L. Position and Change—A Study in Law and Logic; Synthese Library, Volume 112; Springer: Dordrecht, The Netherlands, 1977.

<sup>19</sup> The concept of legal institutions is a fruit of Institutional Legal Theory of which MacCormick, Weinberger and Ruiter are the founding fathers. See, *inter alia*: MacCormick, N.; Weinberger, O. An Institutional Theory of Law. New Approaches to Legal Positivism; Kluwer Academic Publishers: Dordrecht, The Netherlands, 1986. Ruiter, D.W.P. Institutional Legal Facts: Legal Powers and Their Effects; Kluwer Academic Publishers: Dordrecht, The Netherlands, 1993. Ruiter, D.W.P. A Basic Classification of Legal Institutions. Ratio Juris 1997: 10: 357–371.

<sup>20</sup> The listing of rule-types follows from Heldeweg [2017a], op.cit. footnote 17.

<sup>21</sup> Often as a formal-legal means to remedy informal market/trust failure. There may be additional transaction costs (e.g. proper procedure and legal form), but the advantage is legal certainty/enforceability. In practice the decision whether to formalise often involves a trade-off between 'legal/formal legitimacy' and 'substantive legitimacy' as social acceptance.

<sup>17</sup> Between brackets the theoretically possible number of hybrid environments are given without elaboration. For elaboration see Heldeweg M.A [2017a] Normative Alignment, Institutional Resilience and Shifts in Legal Governance of the Energy Transition. Sustainability 2017, 9(7), 1273 <https://doi.org/10.3390/su9071273>.

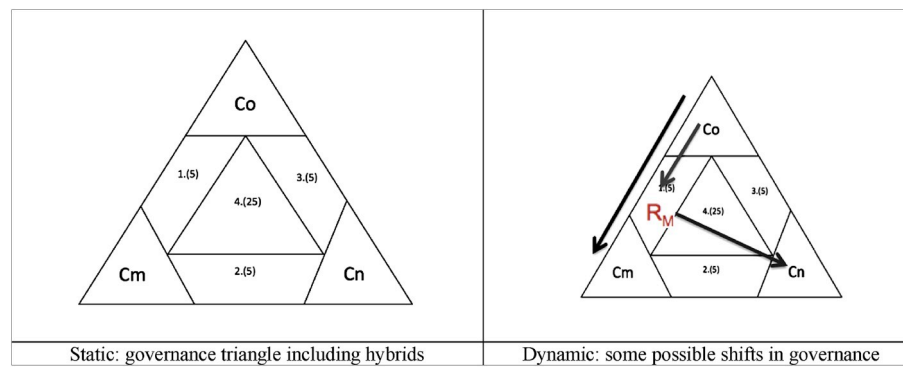


Fig. 1. Governance triangle & shifts between (hybrid) governance modes of Institutional Environments.

latter are regarded as contextualized legal relationships instantiated in EU Member States' jurisdictions upon the EU directives and regulations towards a liberalised energy market.<sup>22</sup> The consequential rules of such liberalised/regulated energy markets prescribe actors such as energy suppliers to secure and comply with, for example, vertical unbundling, tariff regulation, duty of supply, and disconnection constraints.

We therefore propose that the environment of civil networks can similarly be shaped repeatedly (in different jurisdictions) as a legal institution to embed basic rules, rights and obligations that apply to community energy initiatives (within these jurisdictions), to support their instantiation and to safeguard their rights and those of prosumer members/shareholders within them, and their relations with other organisations, towards a decentralized energy democratization allowing for a just energy transition. This proposition, in line with the RED-II, would act as a potential model to replicate, as a first step for Member States.<sup>23</sup>

Renewable energy communities may also exist without a legal institution of civil energy networks. Then again, by providing rules about instantiating energy communities, as types of legal institutions within the civil energy networks environment, the latter could be supportive in establishing and maintaining such communities – also resilient vis-à-vis commercial actors in the energy market.<sup>24</sup> Furthermore, energy system engagement can only be formally embedded if local actors are legally recognised as legitimately building upon energy citizenship [66]. Our proposition allows for this normative recognition, which strengthens such legitimacy and allows to institutionally embed them in the energy system. Legal institutionalisation through covenants between government and civil society organisations on cooperation, mutual assistance et cetera, to support bottom-up initiatives, is an important example, especially since empirical evidence appears to show the importance in the UK of government/local authorities' support in

the success of such entities [67,68], and of municipalities in Canada [69].

The next step is to consider how our approach can help foster a just energy transition.

#### 4. Decentralization and democratization to foster a just transition and energy justice

With our focus on the three tenets of energy justice mentioned in section 2 (i.e. recognition, procedural and distributive/substantive justice), we now move to picture how these can be coherently modelled following different institutional environments, and may fit a decentralized energy democratization towards a just energy transition, particularly by the socio-legal embedding of renewable energy communities.

##### 4.1. Energy justice

While each of the three justice tenets has its conceptual core normative integrity, their conceptualisations may differ across institutional environments. Such a difference relates to the characteristic institutional relation-interest type nexus, which will ultimately translate in norms and rules which determine, through legal institutions, the available liberty and ability/space.

As demonstrated in Table 2 below, with each mode of governance of ideal type institutional environments, there are analytically distinct conceptualizations of the concepts of procedural, substantive and recognition justice principles.

Within the variety of justice conceptualisations we can readily relate civil energy networks to the renewable energy community definition of Article 2.16 RED-II:

Table 2

A cross section of modes of governance and conceptualizations of justice principles.

Type of justice	Governance mode		
	Constitutional order	Competitive Market	Civil society/networks
Procedural	Democratic majority <b>vote</b> & participation ('1 citizen, 1 vote')	Competitive B2C or B2B <b>Agreement</b> ('1 share, 1 vote')	Collective <b>consensual</b> decision-making ('1 member, 1 vote')
Substantive	<b>Distributive</b> as equality before public burden or service	<b>Corrective/Commutative</b> reciprocity of benefits/burdens	<b>Collective</b> by sharing of benefits and burdens
Recognition	Public entity (i.e. <b>state</b> ) & <b>citizen</b>	<b>Firms (shareholders) &amp; Consumers</b>	<b>Communities &amp; their participants</b>

<sup>22</sup> Particularly, in the wave of EU energy liberalisation, the ('First package') Electricity Market Directive I (96/92/EC), and Cross-border exchanges in electricity Regulation (1228/2003/EC), the ('Second package') Electricity Market Directive II (2003/54/EC), Gas Market Directive II (2003/55/EC), Access to natural gas transmission networks Regulation (1775/2005/EU), and the ('Third package') Electricity Market Directive III (2009/72/EC), Gas Market Directive III (2009/73/EC), Cross-Border Exchanges Regulation II (714/2009/EC), Gas Transmission Regulation II (715/2009/EC), and Rules establishing the Agency for the Cooperation of Energy Regulators (ACER)(713/2009/EC).

<sup>23</sup> We say 'first step' since it is clear that many questions are still left to Member States, such as the issues mentioned in Article 22 RED-II (e.g. on entitlements and enabling legal facilities).

<sup>24</sup> Institutional environments may also have a legal dimension other than in the format of a legal institution concept followed by (repeated) instantiation. Legal doctrine may (uniquely) identify a particular pattern-in-practice as one that follows basic legal principles and general basic rules. We cannot elaborate here and will use the term legal institution of institutional environments as also encompassing such a doctrinal variety.

- *procedural* justice (of fairness in decision/action making and taking) conceptualised as consensus, relates to the RED-II requirements of 'voluntary participation' and 'effective control' by members/shareholders<sup>25</sup>;
- *substantive* justice (of fairness in achieving desired outcomes and achieving them at the lowest cost and a with proportional distribution of benefits and burdens) conceptualised as sharing, relates to the RED-II specification of 'purpose' ('providing environmental, economic or social community benefits for its shareholders or members'), and the 'ownership' of projects by the legal entity;
- *recognition* justice (of actors being acknowledged for their place, interests, integrity and dignity, with a rightful claim to being procedurally and substantively treated on equal footing with others) conceptualised as recognition of communities and their participants, relates to the fact of the explicit definition of renewable energy communities, their prescribed 'autonomy', the regulation of their entitlements (in Article 22), (including equal treatment and non-discrimination provisions, also of their consumer-participants), and as to their members/shareholders, how these can only be natural persons, SMEs and local authorities.

When considering examples from around the globe as well as from the authors' home experience with current renewable energy community practice in the UK and the Netherlands, it is interesting<sup>26</sup> to see how widespread the associative model is,<sup>27,28</sup> but with distinct domestic features. In the UK, most community energy initiatives are organised along a collective entity model (Community benefit Organisations (BenCom), provident Society or Community interest Companies (CiC)).<sup>29</sup> In the Netherlands, co-operatives and associations are used,

<sup>25</sup> For a criticism of this expression, see Savaresi, A. The rise of community energy from grassroots to mainstream: the role of law and policy *Journal of Environmental Law*, 2019, 1–24, DOI <https://doi.org/10.1093/jel/eqz006>.

<sup>26</sup> This elaboration is in no way meant to suggest representativeness, but merely to connect the conceptualisation framework to existing experiences as a matter of example.

<sup>27</sup> Although the form of cooperative appears the most widespread, co-operatives in the UK tend to be communities of place: Becker S, Kunze C. Transcending community energy: collective and politically motivated projects in renewable energy (CPE) across Europe, *People, Place and Policy*, 2014; 8(3): 180–191 <https://doi.org/10.3351/ppp.0008.0003.0004>. In Germany and Belgium, they tend to be communities of interest: Bauwens, T Explaining the diversity of motivations behind community renewable energy. *Energy policy* 2016; 93: 278–90. Kalkbrenner, BJ, Roosen, J. Citizens' willingness to participate in local renewable energy projects: The role of community and trust in Germany. *Energy Research and Social Sciences* 2016; 13: 60–70.

<sup>28</sup> For Canada and New Zealand, Hoicka C. MacArthur J. From tip to toes: Mapping community energy models in Canada and New Zealand. *Energy Policy* 2018; 121: 162–174. Brisbois, MC, Powershifts: A framework for assessing the growing impact of decentralized ownership of energy transitions on political decision-making. *Energy Research and Social Sciences* 2019; 50: 151–161. In Australia, there are 105 groups and 174 operating projects as reported in the Guardian in January 2019 by N Ison: [www.theguardian.com/commentisfree/2019/jan/14/australia-could-hit-100-renewables-much-sooner-than-most-people-think](http://www.theguardian.com/commentisfree/2019/jan/14/australia-could-hit-100-renewables-much-sooner-than-most-people-think). Accessed 26 May 2019.

<sup>29</sup> 2018 Community Energy England, State of the Sector 2018. The report can be accessed on the CEE's website: <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [accessed 1 July 2018]. Please note that the 2019 Community Energy England, State of the Sector 2019, available here <https://communityenergyengland.org/pages/state-of-the-sector-report-2019> [accessed 16 September 2019], does not give this kind of data. Interestingly, however, the report appears to show a schism between England on the one hand, and Wales and Scotland on the other. In Wales and Scotland, (the latter especially), the governmental support for community groups appears much stronger (CEE 2019 report, p 6) than England. For a recent account of the Scottish situation, see Van Veelen, B Negotiating energy democracy in practice: governance processes in community energy projects, *Environmental Politics* 2018, 27(4), 644–665.

particularly in regard of experimenting with decentralized energy generation.<sup>30</sup> Other forms also exist such as the trust [70], reiterating the contextually-based heterogeneity of the sector.<sup>31</sup>

From the UK, a picture emerges of a positive impact of energy communities in terms of substantive justice as some renewable energy communities are created solely for combatting fuel poverty [71], especially it seems, in more deprived areas such as Wales [72]. Most local actors have a community fund, towards education on fuel consumption, which empowers people and therefore contributes to substantive and distributive justice since it helps to reduce the cost of energy [73]. The involvement of local councils and other intermediaries [74–77], further reinforces this [78]. In the Netherlands, renewable energy initiatives are mostly substantively motivated by local and environmental orientations [79], but less on energy poverty alleviation and more towards supporting the energy transition, combined with general behaviour towards cost saving.<sup>32</sup>

As regards recognition justice, we can see instances of this, especially in the Netherlands, particularly under experimental licenses for decentralized energy generation, in that (only) co-operatives and associations (of owners/members) are, under certain conditions, eligible for such a licence.<sup>33</sup> For the UK, in spite of the support, in principle, of such endeavours, and of a 'community energy sector' by Ofgem, the energy regulator, support from Westminster has considerably waned. This is clearly regrettable, especially in the light of the aforementioned support in Wales and Scotland [80–82].

#### 4.2. Energy democratization

From the perspective of moving beyond expanding renewable energy for its own sake and ensuring a just energy transition that builds upon a type of decentralized energy democratization that caters both for economic needs (i.e. substantive justice) and participation (i.e. procedural justice), thus moving towards a 'different type of society' [83], the challenge as regards renewable energy communities is clear.

Much of the just energy transition challenge lies in how shifts in governance can be institutionally embedded in a resilient socio-legal sphere, which safeguards and fosters a related justice inspired legal space, with the normative resilience to withhold, if necessary, the undesirable forces of government and markets. (i.e. constitutional orders and competitive markets in Table 2) In that sense the current second energy transition is as challenging as the first one featuring liberalisation to foster, predominantly, access to affordable energy. That first transition also came with the need for legal mechanisms, such as the vertical unbundling requirement and competition law supervision on licensing energy suppliers, to safeguard against forces of retaining or allowing old government or new private monopolies.

Now, in the second energy transition, the challenge lies firstly in

<sup>30</sup> Following derogation on the basis of Article 7a of the Dutch Electricity Act. For a legal and empirical analysis of the experiments, see: Lammers, I.; Diestelmeier, L. Experimenting with Law and Governance for Decentralized Electricity Systems: Adjusting Regulation to Reality? *Sustainability* 2017, 9, 212.

<sup>31</sup> The reason we have not catered for trust in our analysis is because they are not legal entities as such. The Directive does regard renewable energy communities as having legal person, which seems to indicate that trusts are not covered.

<sup>32</sup> It is said that 10% of households in the Netherlands finds it difficult to pay their energy bills. A recent study of the ECN (the Dutch centre for energy research) notices how energy community initiatives are more of a middle and higher social classes activity, and calls for 'effective interventions towards enhancing energy efficiency to thus alleviate energy poverty. ECN (2017). Rapportage energiearmoede. Effectieve interventies om energie efficiëntie te vergroten en energiearmoede te verlagen. ECN-E–17-002.

<sup>33</sup> Separate also from natural persons as prosumers, who produce for their own use and can supply their surplus to their own energy company (see Article 95c, para. 2 EA) – with a fixed Feed-in tariff.

securing *participatory* democratization, as a recognition and procedural justice concern that holds that communities and their members have their ‘say’ in renewable energy generation, distribution and consumption, whether theirs or that of others. Not only to perhaps overcome NIMBY-ism, but also, as Hofmann & High Pippert have put it, to engage ‘*individuals in fashioning the nature of the electricity system and as a consequence strengthening their civil lives as citizens.*’ [84] This is where evidence shows the weakness of such actors as usually more affluent communities tend to benefit more [85,86].

The second challenge is that of *economic* democratization, as through recognition and substantive justice, to deliver upon communities and their members in terms of expected ‘*benefits*’ of renewable energy generation, distribution and consumption. This, once more in the wording of Hofmann & High Pippert, is about making affordable and renewable energy ‘*available to those households previously excluded from the market due to factors such as lack of property (...).*’ [87] Taken together one may argue that a transition towards decentralized participatory and economic energy democratization fits the model of energy justice through civil energy networks.

The opposite frame, of prioritizing energy expansion, is about securing ‘*a rapid and sizeable increase of the volume of (the share of) sustainable energy production, and distribution and consumption, as part of the volume of the whole energy production etc., measured by industrial and commercial energy indicators, such as numbers of solar panels, bio-energy installations, windmills, amounts of investments in (the R&D of) such technologies etc.*’ [88]. Consequently, this frame is also likely to operate primarily upon regulatory policies about interactions within the governance mode and accompanying justice conceptualisations of the competitive market. Perhaps this frame could even call for constitutional ordering – nationally, but also regionally and locally – perhaps as a recast of the hybrid regulated energy market. In respect of the latter, government procurement (i.e. ‘*launching customership*’) to enable tendering for renewable energy projects comes to mind, and regulatory requirements upon incumbent commercial generators or suppliers, towards increasing their volume of renewable energy production or sales.

While renewable energy communities may play a role in the expansion effort through promoting social acceptance [89], clearly the ambition of a just energy transition reaches further. As we have stated already, there is a just transition pathway towards a resilient community energy network institutional environment, carrying forth the three justice tenets as conceptualised in the above, to foster energy citizenship on the basis of polycentric/decentralized associative energy democratization. To picture this clearly, onto its operational consequences in form and purpose of renewable energy communities we need to clarify one last analytical aspect, that of institutional normative alignment. This is important to balance between safeguarding both desired flexibility and necessary constraints in the replication of the institutional environment as it accommodates different needs in different countries while ensuring a just transition that works for all.

## 5. Securing normative alignment between institutional environment and governance structure

Shifts in governance between institutional environments impact upon the interactions available to (legal) persons as types of governance structures within an institutional environment. The first energy transition came with a shift towards the current EU regulated energy market and thus impacted also upon the identity of legal persons, such as by the requirement of vertical unbundling and privatization of public energy utilities. With the RED-II, we are witnessing a new transition and accompanying shift, which could enable renewable energy communities to play the role envisaged from a just transition perspective; fostering decentralized energy democratization. As alluded to in subsection 3.2, this shift in governance may take different forms; of a shift to a different environment, or a shift towards institutional hybridity or co-existence of available governance modes.

From the institutional environment perspective, to see the energy communities resiliently accommodate energy citizenship, requires that their legal form and function, and their internal and external interactions, fit the legal demands and facilities of the relevant legal space – such as in voting, contracting, licensing, legal personality, competition and regulatory standards. Without such ‘*normative alignment*’ between institutional environment and community governance structures, relational arrangements risk invalidity, becoming legally void, or (otherwise) being unlawful, to possibly cause liability. When alignment does exist, it will inform how to deal with questions such as whether a renewable energy community can lawfully supply energy to non-member-/shareholding consumers. If so, that would fit competitive energy market thinking, but how would this relate to typical civil energy network thinking that does allow renewable energy communities to engage in vertical bundling, and be a producer and distributor, but would strictly speaking exclude sales to ‘*outsiders*’?

So, what normative alignment requirements would legally follow from the choice of institutional environment for the legal form and scope of action for energy communities as legal persons that operate as legal governance structures within the civil energy network environment? We will look first at what types of legal personalities are available to next elaborate on the internally regulated mechanisms or dimensions of legal persons in seeking normative alignment.

When we think of legal persons such as energy regulators, energy distributors, energy companies, and, for our purpose, energy communities, they may all be regarded as (sub)types of legal institutions, established upon and regulated by a specific regime that determines their scope of actions. Ruiter offers a useful point of departure of a basic institutional taxonomy to categorise legal persons by legal form:<sup>34</sup>

1. *Associations* of members (i.e. personified alliances), such as a green energy action platform;
2. *Corporations* with shareholding, (i.e. personified partnership), such as an energy company;
3. *Foundations* with designated means (i.e. personified funds), such as a green energy subsidy fund.

This taxonomy is sufficiently flexible to leave room for hybrid types of legal persons, such as the *co-operative*, as a mix of an association and a corporation, for example a renewable energy community of members/co-owners in/of a smart grid. Once established, each legal person is locked into its particular institutional-type rules; such as Renewable energy community ‘*X*’, established as association of members of type ‘*Y*’ (e.g. ‘*locals*’), at some time ‘*T*’ in jurisdiction ‘*Z*’, with mission ‘*M*’. The next thing is whether there is normative alignment of such legal person with the basic rules of the institutional environment that it seeks to operate in – for example compliance with consequential rules of that environment that only allow energy communities with local members or shareholders to produce, consume, store and sell renewable energy (as in Article 21, para 2(a) RED-II).

Although there may be intuitive ideas about the fit between corporations, foundations and associations with any particular institutional environment, generally speaking the designs of their legal forms are elementary and so come with considerable elasticity of fit. Looking beyond basic legal form, De Ridder [90] offers a distinction between three key mechanisms in the internally regulated functioning of legal persona that brings a useful further nuance:

<sup>34</sup> All legal persons share three core attributes. Ruiter, D.W.P. *Legal Institutions*. 2001, Dordrecht-Boston-London: *Kluwer Academic Publishers*, p.102–106; Ruiter, D.W.P. Types of Institutions as Types of Regulated behaviour. *Res Publica* 2004: 10: 207–231. Each type may come in public and private law form, such as the private versus the public enterprise/firm, the public community versus the private association, and the private foundation and the public quango.



- **Mission:** what is the legal person's 'raison d'être', purpose, task or objective? Is the focus on a 'public task', on 'private profit' or on 'community service'? In RED-II this relates to the requirement that 'the primary purpose of which is to provide environmental, economic or social community benefits.' (Article 2.16, sub c.).
- **Control:** which agents internally determine the course of action of the legal person? Does control rest with some 'public authority', or with 'investors/shareholders', or perhaps with 'members' (e.g. volunteers or professionals)? In RED-II this relates to the requirement that the community 'is effectively controlled by shareholders or members ....' (Article 2.16, sub a.).
- **Response:** which exogenous incentives are relevant to the functioning of the legal person? Is it (primarily) opportunities to foster the 'public good', or to create/increase 'competitive advantage', or to serve the community interest? In RED-II this relates to the specification of the above community benefits 'for its shareholders or members or for the local areas where it operates, rather than financial profits' (Article 2.16, sub c.).

With these distinctions normative alignment between environments and types of legal persons would come into picture – as shown in Table 3.

We believe that normative alignment in the context of securing a just transition requires a further detailing of how these mechanisms can in practice be internally regulated, be mixed and hybrid, adding more colours to the palette of available options. To this Becker et al. [91] offer three 'analytical dimensions' – purpose, organisation and embeddedness – while focusing on energy communities<sup>35</sup> and social entrepreneurship organisations.<sup>36</sup> With both types of organisations they do not exclude the possibility that they root at least partly in the competitive market environment and may want to make a profit, which is highly relevant to the normative alignment quest with respect to civil energy networks. As

**Table 3**

Ideal-type point of departure in normative alignment between legal persons and Institutional environments.

LP-Mode	IE-type		
	Constitutional order	Civil Network	Competitive market
Mission of .... (raison d'être)	Public task/ interest	Community service	Profit/efficiency
Control by .... (internal)	Public Authority	Members: volunteers/ professionals	Investors/share- holders
Response to ... (external)	Public good	Community interest	Competitive advantage

IE = Institutional Environment LP = Legal person.

<sup>35</sup> Defined as: "projects where communities (of place or interest) exhibit a high degree of ownership and control, [and are] benefiting collectively from the outcomes." A definition that Becker et al. take from Seyfang et al. (2013: 978). Becker et al. (2014), op.cit., para. 1.; Becker S, Kunze C, Vanea M. Community energy and social entrepreneurship: Addressing purpose, organisation and embeddedness of renewable energy projects. Journal of Cleaner Production 2017; 147: 25–36, para 2.2.

<sup>36</sup> Defined as: "organisations involved at least to some extent in the market, with a clear social, cultural and/or environmental purpose, rooted in and serving primarily the local community and ideally having a local and/or democratic ownership structure (one-member-one-vote rather than one-euro-one-vote)." A definition that Becker et al. take from Johanisova et al. (2013: 11). Becker et al. (2017), op. cit., para 1.

regards local community energy they emphasize a purpose of 'collective benefits (...) not measured in monetary terms only'.<sup>37</sup> Becker et al. [92] specifically point at the 'hybrid' nature of social enterprises and energy communities, particularly with respect to their purpose, ranging from 'only-for-profit', via 'not-only-for-profit' to 'not-for-profit' subtypes. Hybridity also follows from inclusion, next to private, of (semi-)public organisations, such as in the form of municipal ownership of community energy grids.

On the dimension of *purpose*, the specification by Becker et al. [93] relates closely to De Ridder's the *mission*-type of 'community service', but, given their descriptive approach, without excluding 'public task' or 'private profit' pursuits, as long as these are not inconsistent with the community purpose, such as by re-investing in the community.<sup>38</sup> Becker et al. [94] point at the fact that in terms of motivations there can be many shades of 'green': 'ecological' (e.g. climate change mitigation, and preserving biodiversity), 'social' (e.g. citizen empowerment, and energy poverty relief), and 'benefits aims' (e.g. specific categories of recipients, and fixed revenue distribution). Again this is in keeping with the broad description of 'environmental, economic or social community benefits' as used in Article 2.16, sub c of RED-II.

On this aspect the Netherlands presents a rather blurred picture, which is not surprising given that formal legal rules do not prescribe any particular focus on particular interests or justice concerns. Broadly speaking a local/environmental orientation dominates, mostly with local support [95,96]. Given the sometimes-broad stakeholder involvement in their constitution hybrid purposes are not uncommon, whether to the not-only-for-profit side or involving (e.g. DSO) public interests. For the UK, the picture is slightly better since the aims of most community organisations are social, in its broader sense, as well as economic and environmental [97]. The focus on the social/societal outcome is however clear when considering the meaning of economic benefits which also includes reduced energy bills and community asset purchase. There are wider benefits through environmental impacts such as carbon reduction/local environmental improvements [98].

The *organisation and ownership* dimension in Becker et al. [99] resembles De Ridder's *internal control* mechanism. The legal form is seen to be particularly relevant to include social values, and to arrange for member and other stakeholder participation, but at the same time ownership relations are of great importance. Becker et al. [100] identify the following key aspects: 'object' of ownership (e.g. a physical grid infrastructure), 'legal form' (e.g. co-operative or corporation), and 'mode of participation' (if any; e.g. different means, such as investment clubs, and general versus local assemblies, different control bodies, decisive or advisory, and different local representation, if any, how, such as private or private-and-public). When we relate to Article 2.16 RED-II, various aspects come into play: 'effective control' by local shareholders or members, and ownership of the renewable energy project (both (sub a.)), leaving much discretion to EU Member State specification.

When we look at the Dutch experimental experience the gap between theory and practice is evident. While there are no indications that formal rules are violated, the reality is that of major *de facto* outside influence, seemingly much desired to actually get projects established – prompting Lammers & Diestelmeier to suggest a more 'expansionist' frame in which other actors, semi-public (e.g. DSOs and housing companies) and private (e.g. energy companies, aggregators) come into the picture – a suggestion that raises questions on if and how this can be arranged in a way

<sup>37</sup> Becker et al. (2017), op.cit., para 2.2. Adding, to specify: "It highlights community ownership and control as organisational requirements and refers to community embeddedness, whereas community can be defined in terms of common location or interest."

<sup>38</sup> Fleiß et al.'s study shows indeed that such organisations also seek money. Fleiß E, Hatzl S, Seebauer S, Posch A. Money, not morale: the impact of desires and belief on private investment in photovoltaic citizen participation initiatives. J. Clean Prod. 2017; 141: 920–927.

that leaves energy democratization ambitions intact. For the UK, the most common forms of organisation are those allowing community investments, the focus on democracy appear clear [101].

Becker et al. [102] and De Ridder seem distant on the *embeddedness* dimension and ‘*response*’ mechanism respectively, though one may argue that these two connect as a matter of sensitivity to, support by and incentives from outside inputs on the organisation. According to Becker et al. [103] responsiveness to local needs and engagement of local stakeholders is key, as ‘*locality (...) combined with informality and embedded relations of trust and mutuality*’, for example towards ‘*increasing the acceptance of community energy schemes among the population*.’ [104] They also name the ‘*relation to social movements*’ especially to uphold a non-monetary purpose (e.g. during foundation, social movement control during business, common campaigns), and finally the ‘*relationship to similar projects*’ (e.g. relevant actors,<sup>39</sup> institutionalised relations, such as membership contacts and knowledge exchange, and forms of cooperation). When compared to RED-II the local aspect in purpose towards ‘*community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits*’ (Article 2.16, sub c) clearly stands out, but without any procedural or substantive specification, while embeddedness in social movements is not in the picture at all.

For the Dutch experience, the empirical findings point at a strong local-environmental orientation, with local support and little bridging across to the national policy level, which still operates mainly upon a centralised orientation [105]. Nevertheless, bottom-up initiatives, as communities of place, have begun to grow, especially since 2009, with currently 484 co-operatives, mostly with the objective of re-investing benefits back into the community. Embeddedness is growing particularly through NGOs that provide knowledge sharing/expertise [106]. For the UK, it is clear that, as communities of place appear more prevalent, they must answer the needs of the community they are embedded in [107]. This is particularly true of Scotland where the majority of groups do not distribute income to individual members but use their income to fund community development projects [108].

Becker et al. [109] confirm that a legal form hardly puts limits on ‘*purposes and values*’ that an organisation may want to pursue. At the same time they emphasize that the a proper link between the dimensions of purpose and organisation is key to ‘*ensure and control the pursuit of not-only-for-profit goals*’, especially through ‘*participatory forms of organisation and collective ownership*’ – with embeddedness in social movement(s) playing a supportive role, especially in the longer run.

Becker et al. [110] do not relate their analysis to (alignment with) institutional environments. Still, as the above analysis demonstrates, their taxonomy does add useful nuances of legal person’s internal regulation to De Ridder’s ideal type approach, and is especially relevant in respect of alignment between hybrid legal persons and hybrid institutional environments. This is a key aspect of Table 4, which presents an overview featuring renewable energy communities, broadly positioned in the middle of its top row. The immediately below row categorises subtypes of these communities across one pure (Cn) and two broad hybrid (Cm/Cn and Cn/Co) environments; placed in-between the ideal types of (to the left) the competitive market (Cm), with the ‘firm’ as key ideal type actor, and (to the right) the constitutional order (Co) with government as key ideal type actor. The lower rows present key-word characterisations of each type of legal person, following the three mechanisms and dimensions discussed in the above, in vertical alignment with a specific institutional environment.

This overview of basic options for normative alignment, features a down-the-middle energy justice upon decentralized associative democratization space with fitting legal person characteristics of renewable

energy communities. This ideal type alignment is one in which a civil energy networks institutional environment is established to support and regulate renewable energy communities which accordingly regulate themselves. These may be new communities, but possibly also existing communities or other organisations willing to undergo an organisational transition towards institutional fit/normative alignment – similar to how incumbent energy suppliers had to unbundle under liberalisation during the 1st energy transition.

As said, Table 4 also presents possible hybrid variations in environments (Cm/Cn and Cn/Co), with fitting types of equally hybrid renewable energy communities. These are possible conceptualizations in a practice where it is believed that associative energy democratization has a better chance to flourish (well), as hybrid organisation in a hybrid environment. This could be through a fit with a hybrid *civil network-to-competitive market* environment, such as with shareholding and/or with safeguards for the position of consumers within a renewable energy community. Alternatively there could be a fit with a hybrid *civil network-to-constitutional order* type of coordination, such as to open possibilities of public energy interest subsidies and/or to secure openness of membership. We have pictured these hybrid options in Fig. 2, by building upon Fig. 1.

Clearly, a move beyond the ideal type middle into peripheral hybrid environments (i.e. Cm/Cn and Cn/Co) risks that legal safeguards for associative/decentralized energy democracy on justice tenets/parameters of community recognition, and procedural and substantive rights, will erode and fall prey either to commercial private interest or to general public interest demands. As alluded to in para 3.2, there is along the hybrid areas at the sides of the triangle, not only a mix of basic interest-types with a shift in dominance, but also a mix of relationship types, also with a shift in dominance. There comes a point where other than energy citizenship community interests and other than collaborative relations come to dominate, so that recognition moves away from the communities to the consumers or the citizens, procedures move away from collaboration to exchange and order, and substantively the distribution of benefits and burdens does no longer favour community members/shareholders.

At the moment RED-II offers some points of reference for EU Member States towards instantiating a legal institution of a civil energy networks environment. These references are, however, still very open-ended. They may not bring sufficient support to associative/decentralized energy democratising renewable energy communities, nor adequately protect them to become resilient in the face of commercial interest/exchange relations or public interest/regulation dominance, which may be primarily out to secure renewable energy expansion,<sup>40</sup> no matter if this would come at the cost of not achieving a just energy transition. Our call goes out to the EU (and EU member state) lawmakers, but also to other governments across the globe, to take a legislative lead, possibly through undertaking legislative experiments (by devolution) [111], in creating a resilient institutional environment that supports renewable energy communities that have a desire and the capacity to contribute to a just energy transition that builds upon energy citizenship.

As said, these environments may be of a hybrid kind, because associative/decentralized energy democratization without renewable energy expansion amounts to ‘*much ado about nothing*’. And indeed hybrid environments that either promote private investment and trade, and/or public subsidies and protection may be key to establishing and maintaining viable and flourishing renewable energy communities [112]. Consequently, lawmakers may also do good by arranging for hybrid institutional legal environments, as long as they do not amount to

<sup>39</sup> Such as Rescoop: the European federation of renewable energy co-operatives, which has an EU platform (vide: <https://www.rescoop.eu/>), but also national platforms (vide: <https://www.rescoop.nl/>) [Both sites last accessed 28 June 2018].

<sup>40</sup> This appears to have happened in Germany in the context of auctions where big actors appear to pay lip-service to the just transition. See Tews K The crash of a policy pilot to legally define community energy. Evidence from the German Auction Scheme. Sustainability 2018; 10(10) 3397, DOI: <https://doi.org/10.3390/su10103397>.

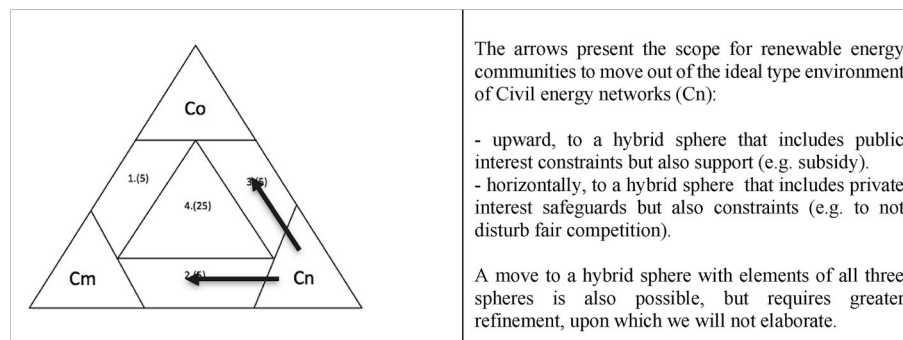
**Table 4**  
Categorizing energy communities in normative alignment with (hybrid) institutional environments.

Mechanism/ dimension	Leg. Person				
	Firm	Renewable energy communities (social enterprises)			Gov't
	Cm	→Cm/Cn←	Cn	→Cn/Co←	Co
	Private expansion	Priv.expansion & democratization	Energy democratization	Publ.expansion & democratization	Public expansion
Mission Purpose	Private profit (only)	Not-only-for-profit (profit & community interest) Statut. inclusion of comm. purposes → (also monetary)	Community task (of place ↔ of interest) Ecological, social, benefits&investment (also non-monetary)	Public-community service not-for-profit ← Public law inclusion (in cash/in kind)	Public (non-profit) task
Control Ow&Or	Shareholder & investors	Co-ownership private investment Investment club shareholding corporation advisory position CSR Community.support	Members (democratization) Ownership object, legal form (esp. cooperat. & assoc.) & participation Community interest (e.g. RESCOOP)	Municipal & community Public-private collaboration community say public control Community2polity pub.subsidy/ procure	Public authority
Response Embedds	Competitive advantage	Mostly larger scale coop. commerc. retail instituted>informal	Scale/location, 2soc.movements, 2sim. projects,	Mostly small scale Publ. campaign informal>instituted	public good

Pure institutional environments: Cm – Competitive market; Cn = Civil networks; Co = Constitutional order.

Hybrid institutional environments: Cm/Cn – combining market and network; Cn/Co = combining network and order.

Firm = private interest/profit driven shareholding corporation; govt = government body/entity in exclusive public interest Ow&Or = ownership and organisation.



**Fig. 2.** Picturing options of normative alignment.

expansion without decentralized/associative democratization. The key general argument remains that both for pure and for hybrid pursuit of a just energy transition, resilient institutional arrangements are important to foster and safeguard renewable energy community activity, given that these communities are the key actor-type for the realization of associative/decentralized energy democratization. On the level of renewable energy communities such resilience should support their capacity to cope with (i.e. resist) shocks (e.g. having legal autonomy to withstand a corporate or government take-over or crowding-out) and capacity to adapt to changing circumstances (e.g. being legally empowered to make strategic choices – upon ‘effective control’) [113].

## 6. Conclusions and recommendations

The aim of this article was to look into a way forward for Member States to implement the RED-II which, in its aim to stimulate ‘renewable energy communities’ in all Member States favours a decentralized view of energy systems by involving local actors as a means to deliver a more democratic, inclusive and just energy transition. As national energy policies remain overwhelmingly centralised, this ‘bottom up approach’ can however only succeed with new legal and regulatory tools. To that end, this article has therefore proposed to recognise such renewable energy communities as legal entities to be embedded within a normative-analytical frame of a separate socio-legal institution of civil energy networks. To ensure that this new category can successfully be embedded in terms of governance, we have evaluated our new normative-analytical frame by reference to the UK and the Netherlands’ experiences of community energy initiatives (with reference to further

afeld experiences when available). This comparison has highlighted differences in scope and experimentation, primarily in the approach taken by the governments: highly experimental and (formally) highly controlled in the Netherlands v the free-hand left in the sector in Westminster (but with burgeoning devolved differences in Scotland and Wales). Comparing and contrasting the UK (in its distinct devolved setting) and the Netherlands’ ‘renewable energy initiatives’ shows a perspective for institutionally strengthening a just energy transition through the model of associative/decentralized energy democratization. It is therefore those differences that help pave the way forward. Indeed, the comparison has highlighted that the choice of institutional environment and matching governance structures matters hugely, and that adequate regulation is important to provide basic safeguards for a just and resilient energy community practice, yet must be sufficiently flexible for adaptation to social innovations [114]. We believe our analytical model proposes institutional formats that are indeed sufficiently wide to allow the necessary flexibility not only for such initiatives to be socially embedded and follow, in normative alignment, the primary purpose for which they were created to succeed, but also to be replicated in different countries, to answer different needs and therefore equally succeed. Achieving an energy transition that delivers on all three tenets of justice in respect of energy citizenship is a significant societal challenge. We however believe that our proposal for an institutional socio-legal approach is crucial in providing normative guidance in the design of proper civil energy networks and in subsequently establishing normatively aligned decentralized/polycentric energy communities, all of which are in service of a just energy transition.

## List of abbreviations and definitions

ACER	Agency for the Cooperation of Energy Regulators
BenCom	Community benefit Organisations
B2B	business-to-business
B2C	business-to-consumer
CiC	Community interest Companies
Cm	competitive market
Cn	civil networks
Co	constitutional order
CO <sup>2</sup>	carbon-dioxide
CSR	Corporate social responsibility
DSO	Distribution system operator
EC	European Community
ECN	Dutch centre for energy research
ED	Energy Democratization
EU	European Union
G2C	government-to-citizen
IE	Institutional Environment
LP	Legal person
NGO	Non-Governmental Organisation
NIMBY	Not in my backyard
N2M	NGO-to-member
RED-II	Recast Renewable Energy Directive (Directive 2018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, [2018] OJ L382/82.)
Rm	Regulated market
R&D	Research & Development
UK	United Kingdom

## References

- [1] Rawls J. A theory of justice. Oxford University Press; 1973.
- [2] Prosser T. The limits of Competition Law, markets and Public services. Oxford University Press; 2005.
- [3] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 451.
- [4] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 451.
- [5] Jasanoff S. Just transitions: A humble approach to global energy futures. *Energy Res Soc Sci* 2018;35:11–4.
- [6] UNFCC, Preamble. 1<sup>st</sup> recital 1992.
- [7] Rawls J. A theory of justice. Oxford University Press; 1973.
- [8] Savaresi A. The rise of community energy from grassroots to mainstream: the role of law and policy. *J Environ Law* 2019;1–24. <https://doi.org/10.1093/jel/eqz006> at 1.
- [9] Boyle A. Climate change, the Paris Agreement and human rights. *Int Comp Law Q* 2018;67(4):759–77. at 759.
- [10] Boyle A. Climate change, the Paris Agreement and human rights. *Int Comp Law Q* 2018;67(4):759–77.
- [11] Hirst P. Associative democracy, new forms of economic and social governance. Polity Press; 1994.
- [12] Directive 2018/2001 of the European Parliament and of the Council on the promotion of the use of energy from renewable sources. 2018. OJ L382/82.
- [13] Creamer E, Eadson W, Veelen B, Pinker A, Tingey M, Brauholtz-Speight T, Markantoni M, Foden M, Lacey-Barnacle M. Community energy: entanglements of community, state and private sector. *Geography Compass* 2018;12(7). <https://doi.org/10.1111/gec3.12378>.
- [14] Mirzania P, Ford A, Andrews D, Ofori G, Maidment G. The impact of policy changes: the opportunities of Community Renewable Energy Projects in the UK and the barriers they face. *Energy Policy* 2019;129:1282–96.
- [15] Community Energy England 'State of the Sector. The report can be accessed on the CEE's website. 2018. <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018]. 2018.
- [16] Smits JM. The mind and method of the legal academic. , UK; Northampton, USA: Edward Elgar/Cheltenham; 2012.
- [17] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 134.
- [18] Boyle A. Climate change, the Paris Agreement and human rights. *Int Comp Law Q* 2018;67(4):759–77. at 759.
- [19] Devine-Wright P. Energy citizenship: psychological aspects of evolution in sustainable energy technologies. In: Murphy J, editor. *Governing technology for sustainability*. London: Earthscan; 2007.
- [20] Defila R, Di Giulio A, Schweizer R. Two souls are dwelling my breast: uncovering how individuals in their dual role as consumer-citizen perceive energy policies. *Energy Res Soc Sci* 2018;152–62.
- [21] Bornemann B, Sohre A, Burger P. Future governance of individual energy consumption behaviour change- A framework for reflective designs. *Energy Res Soc Sci* 2018;140–51.
- [22] McKenna E, Higginson, Grunewald S, P Darby SJ. Simulating residential demand response: improving socio-technical assumptions in activity-based models of energy demand. *Energy Effic* 2017;1–15.
- [23] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9.
- [24] Hoffmann SM, High Pippert A. Community solar programs and the democratization of the energy system. In: *Proceedings of the european consortium for political research*; 2015. Montreal, QC, Canada, 26–29 August 2015. Available online: <https://ecpr.eu/Filestore/PaperProposal/8ac09b8b-ed6e-4798-b1ed-6975c7172230.pdf>. [Accessed 30 June 2018].
- [25] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 453.
- [26] Van Veelen B, Van der Horst D. What is energy democracy? Connecting social science energy research and political theory. *Energy Res Soc Sci* 2018;46:19–28. p. 25.
- [27] Hirst P. Associative democracy, new forms of economic and social governance. Polity Press; 1994. p. 19.
- [28] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 136.
- [29] McCauley D, Heffron R, Hannes S, Jenkins K. Advancing energy justice: the triumvirate of tenets. *Int Energy Law Rev* 2013:107–10.
- [30] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9.
- [31] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9.
- [32] Szulecki K. Conceptualising energy democracy *Environmental politics* 2018;27(1):1–41.
- [33] Van Veelen B, Van der Horst D. What is energy democracy? Connecting social science energy research and political theory. *Energy Res Soc Sci* 2018;46:19–28.
- [34] Forman A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. *Energy Policy* 2017;107:649–57.
- [35] Walker G, Devine-Wright P. Community renewable energy: what should it mean? *Energy Policy* 2008;36(2):497–500.
- [36] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organisation and embeddedness of renewable energy projects. *J Clean Prod* 2017;147:25–36.
- [37] Van Veelen B. Making sense of the scottish community energy sector – an organising typology. *Scott Geogr J* 2017;133:1–20.
- [38] Seyfang G. Grassroots sustainable energy niche? Reflections on community energy in the UK. *Environ Innovat Societal Reinstitution* 2014;13:21–44.
- [39] Strachan PA, Cowell R, Ellis G, Sherry-Brennan F, Toke D. Promoting community renewable energy projects in a corporate energy world. *Sustain Dev* 2015;23(2): 96–109. <https://doi.org/10.1002/sd.1576>.
- [40] Forman A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. *Energy Policy* 2017;107:649–57.
- [41] Forman A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. *Energy Policy* 2017;107:649–57.
- [42] Hicks J, Ison N. An exploration of the boundaries of 'community' in community renewable energy projects: navigating between motivation and context. *Energy Policy* 2018;115:423–34.
- [43] Simcock N. Exploring how stakeholders in two community wind projects use a 'those affected' principle to evaluate the fairness of each project's spatial boundary Local. *Environ Times* 2014;19:241–58.
- [44] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 135.
- [45] Hirst P. Associative democracy, new forms of economic and social governance. Polity Press; 1994. p. 19.
- [46] Hirst P. Associative democracy, new forms of economic and social governance. Polity Press; 1994. p. 20.
- [47] Savaresi A. The rise of community energy from grassroots to mainstream: the role of law and policy. *J Environ Law* 2019;1–24. <https://doi.org/10.1093/jel/eqz006>.
- [48] Mirzania P, Ford A, Andrews D, Ofori G, Maidment G. The impact of policy changes: the opportunities of Community Renewable Energy Projects in the UK and the barriers they face. *Energy Policy* 2019;129:1282–96.
- [49] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 452.
- [50] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 452.
- [51] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 137.
- [52] Hicks J, Ison N. An exploration of the boundaries of 'community' in community renewable energy projects: navigating between motivation and context. *Energy Policy* 2018;113C:523–34.
- [53] Heldeweg MA. Investing in energy justice: modes of legal energy governance, especially of energy community initiatives'. 2017. <https://doi.org/10.13140/RG.2.2.10674.09928>.
- [54] Williamson OE. *The economic institutions of Capitalism*. Free Press; 1985.



- [55] Defila R, Di Giulio A, Schweizer CR. Two souls are dwelling my breast: uncovering how individuals in their dual role as consumer-citizen perceive energy policies. *Energy Res Soc Sci* 2018;152:62.
- [56] Ostrom E. Polycentric systems for coping with collective action and global environmental change. *Glob Environ Chang* 2010;20:550–7. <https://doi.org/10.1016/j.gloenvcha.2010.07.004>.
- [57] Sovacool BK, Brown MA. Scaling the policy response to climate change. *Policy Soc* 2009;27(4):317–28. <https://doi.org/10.1016/j.polsoc.2009.01.003>.
- [58] Soutar I, Mitchell C towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 134.
- [59] CMA. Energy market investigation. full report available at: <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>. [Accessed 1 July 2018].
- [60] Abbott KW, Snidal D. Strengthening international regulation through transnational law governance: overcoming the orchestration deficit. *Vanderbilt J Transnatl Law* 2009;42:501–78.
- [61] Scott R. Institutions and organizations. Thousand Oaks, CA, USA: Sage; 1995. p. 132.
- [62] MacCormick, Weinberger. op.cit.; 1986. p. 52–3.
- [63] Ruiter DWPA. Basic classification of legal institutions. *Ratio Juris* 1997;10: 357–71.
- [64] Lammers I, Heldeweg MA. Smart design rules for smart grids: analyzing local smart grid development through an empirico-legal lens. *Energy Sustain Soc* 2016; 15. 2016.
- [65] Heldeweg MA, Lammers I. An empirico-legal analytical & design model for local smart energy systems: applying the 'ILTAD' model, combining the IAD-Framework with Institutional Legal Theory. *Int J Commons* 2019;13(1):479–506. <https://doi.org/10.18352/ijc.885>.
- [66] Soutar I, Mitchell C. Towards pragmatic narratives of societal engagement in the UK energy system. *Energy Soc Sci* 2018;35:132–9. at 137.
- [67] Mirzania P, Ford A, Andrews D, Ofori G, Maidment G. The impact of policy changes: the opportunities of Community Renewable Energy Projects in the UK and the barriers they face. *Energy Policy* 2019;129:1282–96.
- [68] Savaresi A. The rise of community energy from grassroots to mainstream: the role of law and policy. *J Environ Law* 2019;1–24. <https://doi.org/10.1093/jel/eqz006>.
- [69] Hoicka C, MacArthur J. From tip to toes: Mapping community energy models in Canada and New Zealand. *Energy Policy* 2018;121:162–74.
- [70] Hoicka C, MacArthur JL. From tip to toes: Mapping community energy models in Canada and New Zealand. *Energy Policy* 2018;121:162–74.
- [71] 2018 Community Energy England 'State of the Sector. The report can be accessed on the CEE's website: <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018]. 33.
- [72] Forman A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. *Energy Policy* 2017;107:649–57.
- [73] 2018 Community Energy England 'State of the Sector. The report can be accessed on the CEE's website. <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018].
- [74] Creamer E, Eadson W, Veelen B, Pinker A, Tingey M, Brauholtz-Speight T, Markantoni M, Foden M, Lacey-Barnacle M. Community energy: entanglements of community, state and private sector. *Geography Compass* 2018;12:12378.
- [75] Goedkoop F, Devine-Wright P. Partnership or placation? The role of trust and justice in the shared ownership of renewable energy projects. *Energy Res Soc Sci* 2016;17:135–46.
- [76] Seyfang G, Hielscher S, Hargreaves T, Martiskainen M, Smith A. A grassroots sustainable energy niche? Reflections on community energy in the UK. *Environ Innovat Societal Trans* 2014;13:21–44.
- [77] Van der Schoor T, Scholtens B. Power to the people: local community initiatives and the transition to sustainable energy. *Renew Sustain Energy Rev* 2015;43: 666–75.
- [78] Webb J, Hawkey D, Tingey M. Governing cities for sustainable energy: the UK case. *Cities* 2016;28–35. <https://doi.org/10.1016/j.cities.2015.10.014>.
- [79] Oteman Marieke, Henk Jan Kooy, Wiering Mark A. Pioneering renewable energy in an economic energy policy system: the history and development of Dutch grassroots initiatives. *Sustainability* 2017;9:550. <https://doi.org/10.3390/su9040550>.
- [80] Mirzania P, Ford A, Andrews D, Ofori G, Maidment G. The impact of policy changes: the opportunities of Community Renewable Energy Projects in the UK and the barriers they face. *Energy Policy* 2019;129:1282–96.
- [81] Radtke J. A closer look inside collaborative action: civil engagement and participation in community energy initiatives. *People Place and Policy* 2014;8: 235–48.
- [82] Park JJ. Fostering community energy and equal opportunities between communities. *Local Environ* 2012;17:387–408.
- [83] Healy N, Barry J. Politicising energy justice and energy system transitions, fossil fuel divestment and a 'just transition'. *Energy Policy* 2017;108:451–9. at 453.
- [84] Hoffman, S.M.; High-Pippert A. Community Solar Programs and the Democratization of the Energy System. In Proceedings of the European Consortium for Political Research, Montreal, QC, Canada, 26–29 August 2015; Available online: <https://ecpr.eu/Filestore/PaperProposal/8ac09b8b-ed6e-4798-b1ed-6975c7172230.pdf> [Accessed on 25 June 2018].
- [85] Catney P, MacGregor S, Dobson A, Hall SM, Royston S, Ronbinson Z, Ormerod M, Ross S. Big society little justice? Community renewable energy and the politics of localism. *Local Environ* 2014;19:715–30.
- [86] Forman A. Energy justice at the end of the wire: Enacting community energy and equity in Wales. *Energy Policy* 2017;107:649–57.
- [87] Hoffman, S.M.; High-Pippert A. Community Solar Programs and the Democratization of the Energy System. In Proceedings of the European Consortium for Political Research, Montreal, QC, Canada, 26–29 August 2015; Available online: <https://ecpr.eu/Filestore/PaperProposal/8ac09b8b-ed6e-4798-b1ed-6975c7172230.pdf> [Accessed on 25 June 2018].
- [88] Heldeweg MA. Investing in energy justice: modes of legal energy governance, especially of energy community initiatives. 2017. <https://doi.org/10.13140/RG.2.2.10674.09928>.
- [89] Bauwens T, Devine-Wright P. Positive energies? An empirical study of community energy participation and attitudes to renewable energy. *Energy Policy* 2018;118: 612–25.
- [90] De Ridder J. Over bastaards en kruisbestuiving. *Naar een taxonomie van organisatorische hybriditeit. Bestuurswetenschappen* 2010;4:69–85.
- [91] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [92] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [93] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [94] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [95] Oteman Marieke, Henk Jan Kooy, Wiering Mark A. Pioneering renewable energy in an economic energy policy system: the history and development of Dutch grassroots initiatives. *Sustainability* 2017;9:550. <https://doi.org/10.3390/su9040550>.
- [96] Warbroek Beau, Hoppe Thomas. Modes of governing and policy of local and regional governments supporting local low-carbon energy initiatives; exploring the cases of the Dutch regions of overijssel and fryslân. *Sustainability* 2017;9:75. <https://doi.org/10.3390/su9010075>.
- [97] 2018 Community Energy England 'State of the Sector. The report can be accessed on the CEE's website. para 3.4 p. 30, <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018].
- [98] 2018 Community Energy England 'State of the Sector. The report can be accessed on the CEE's website. para 3.4 p. 30, <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018].
- [99] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [100] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [101] 2018 Community Energy England 'State of the Sector. The report can be accessed on the CEE's website. para 3.1.2 p. 17, <https://communityenergyengland.org/pages/state-of-the-sector-report-2018/>. [Accessed 1 July 2018].
- [102] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [103] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [104] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [105] Oteman Marieke, Henk Jan Kooy, Wiering Mark A. Pioneering renewable energy in an economic energy policy system: the history and development of Dutch grassroots initiatives. *Sustainability* 2017;9:550. <https://doi.org/10.3390/su9040550>.
- [106] Hier opgewekt (lit. Generated here), see. <https://www.hieropgewekt.nl/>. [Accessed 16 June 2019].
- [107] Becker S, Kunze C. Transcending community energy: collective and politically motivated projects in renewable energy (CPE) across Europe. *People, Place and Policy* 2014;8(3):180–91. <https://doi.org/10.3351/ppp.0008.0003.0004>.
- [108] Van Veelen B. Negotiating energy democracy in practice: governance processes in community energy projects. *Environ Pol* 2018;27(4):644–65. at 659.
- [109] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.
- [110] Becker S, Kunze C, Vancea M. Community energy and social entrepreneurship: Addressing purpose, organization and embeddedness of renewable energy projects. *J Clean Prod* January 2017. <https://doi.org/10.1016/j.jclepro.2017.01.048>.

- [111] Heldeweg MA. Legal regimes for experimenting with cleaner production - especially in sustainable energy. *J Clean Prod* 2017;169:48–60. <https://doi.org/10.1016/j.jclepro.2016.11.127>. 169.
- [112] Warbroek Beau, Hoppe Thomas. Modes of governing and policy of local and regional governments supporting local low-carbon energy initiatives; exploring the cases of the Dutch regions of overijssel and fryslân. *Sustainability* 2017;9:75. <https://doi.org/10.3390/su9010075>.
- [113] Heldeweg MA. Normative alignment, institutional resilience and shifts in legal governance of the energy transition. *Sustainability* 2017;9(7):1273. <https://doi.org/10.3390/su9071273>. 2017.
- [114] Bauwens T, Devine-Wright P. Positive energies? An empirical study of community energy participation and attitudes to renewable energy. *Energy Policy* 2018;118: 612–25.